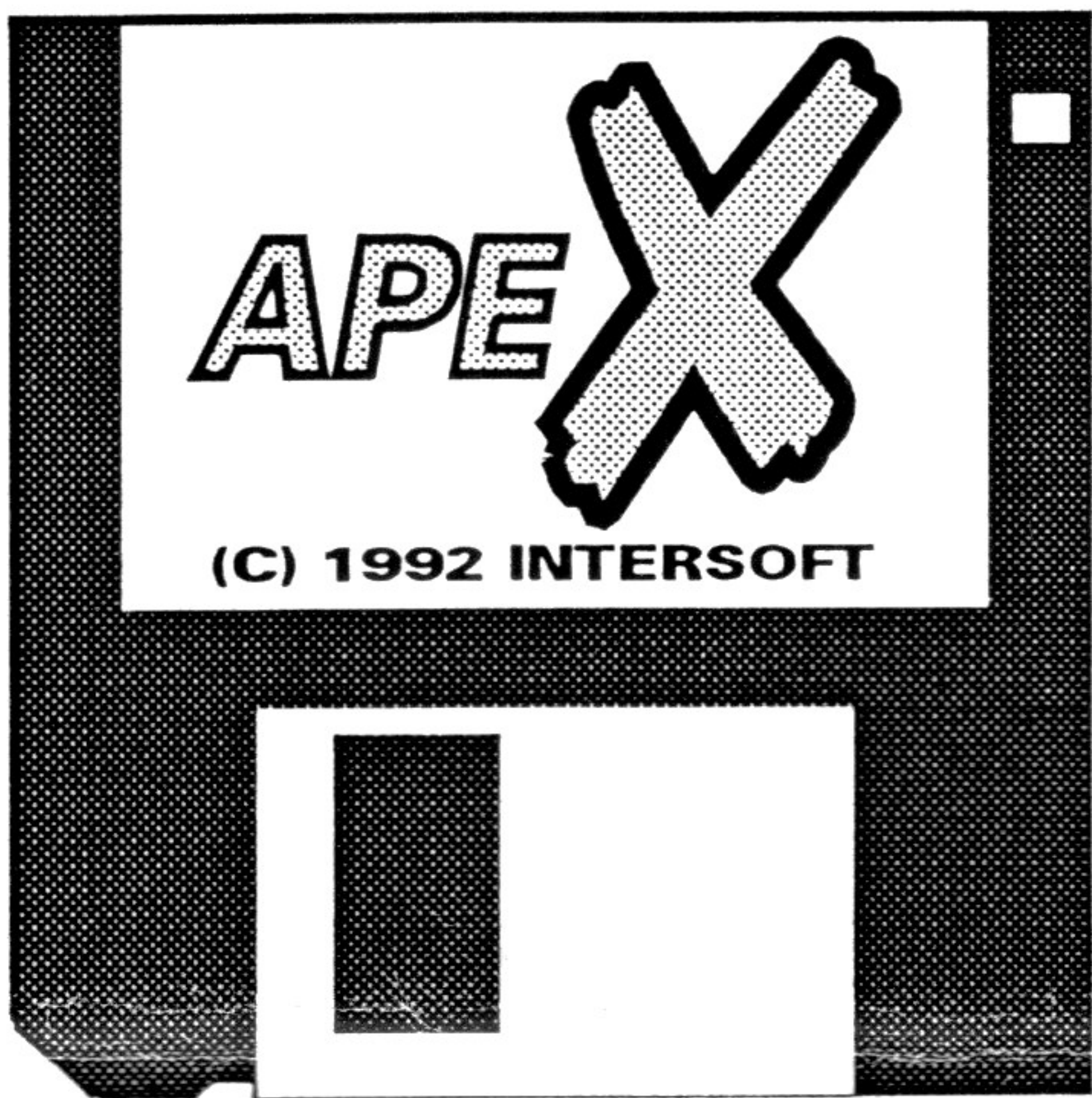


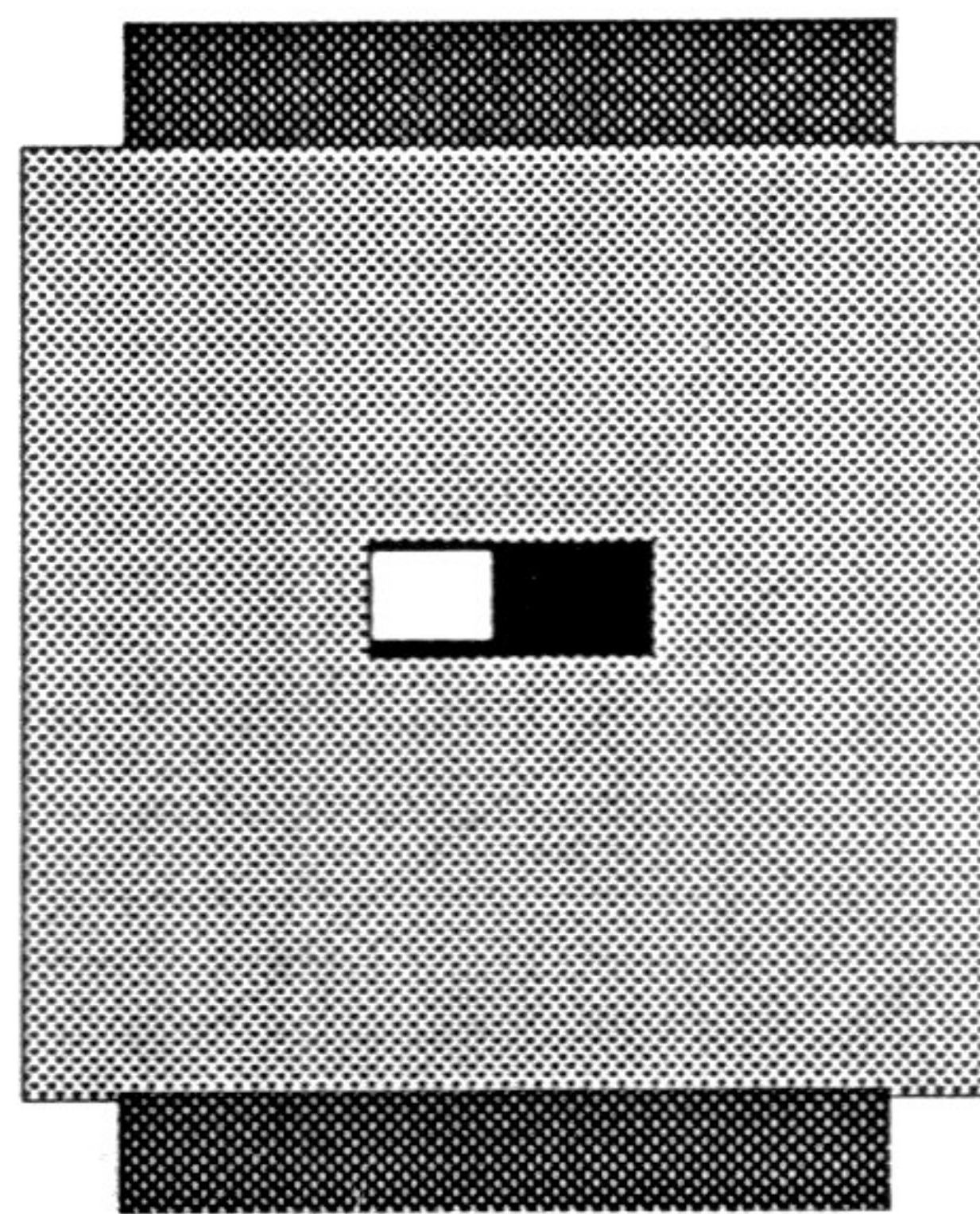
INSTRUCTION MANUAL

INSTALLATION PROCEDURE

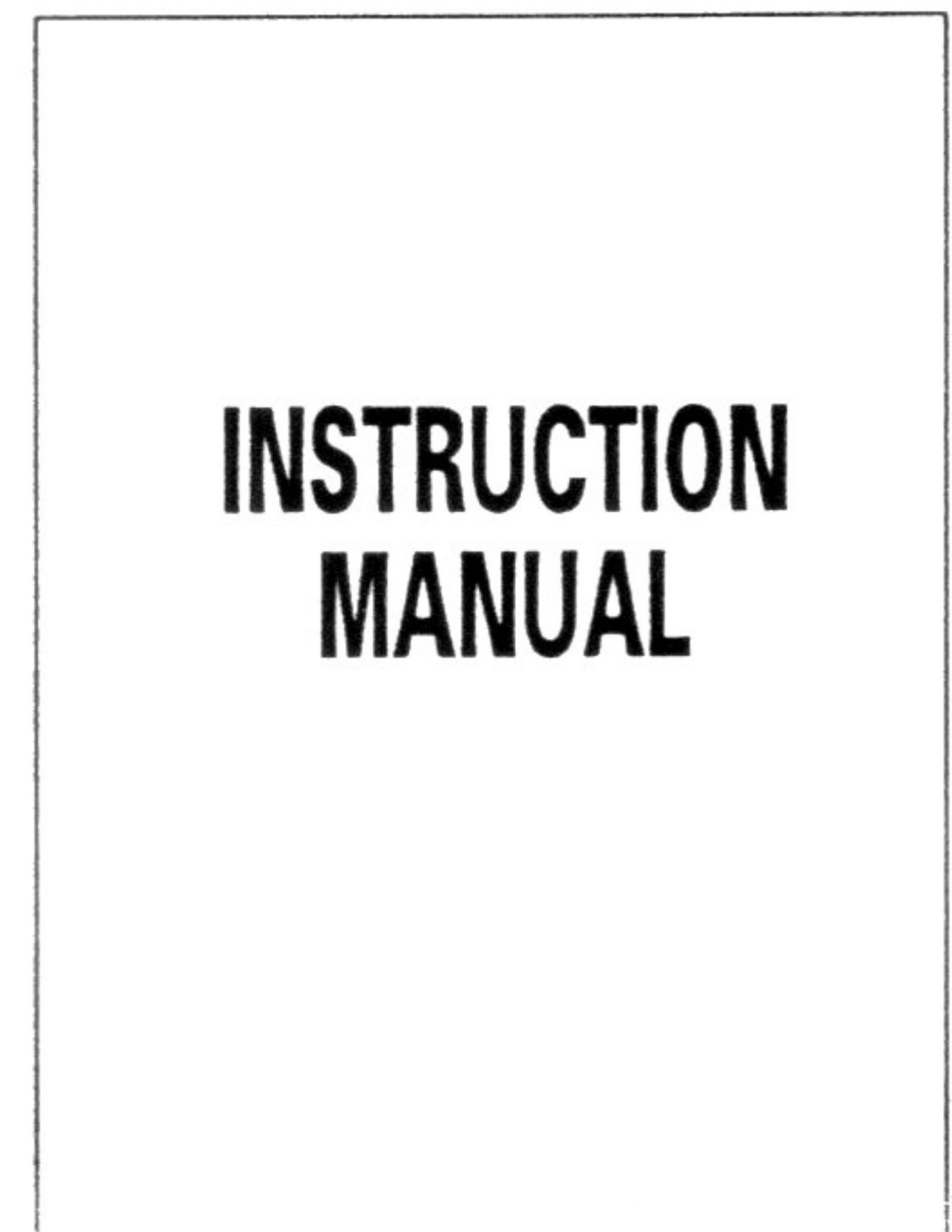
**YOUR APEX SYSTEM SHOULD COME WITH APEX PROGRAM DISK, APEX
HARDWARE ADAPTOR, APEX INSTRUCTION MANUAL - IF NOT THEN
CONTACT YOUR SUPPLIER.**



APEX PROGRAM DISK



APEX HARDWARE



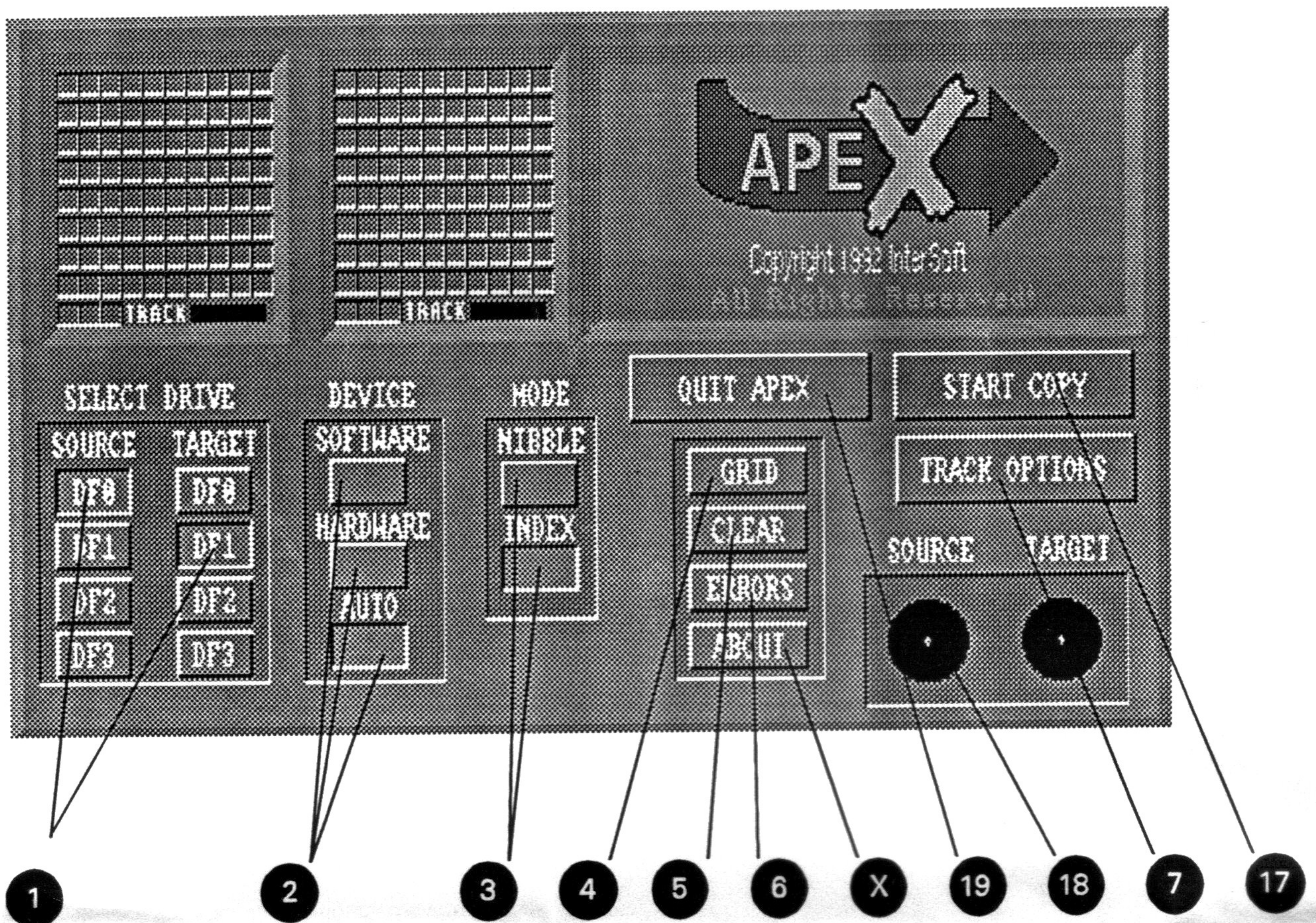
APEX MANUAL

Turn off your Amiga and disconnect your external drive from the external drive port. Plug the Apex hardware into the drive port then re-connect your external drive into the Apex hardware. The switch on the Apex hardware is for when you are using the Apex system (to the left) and when you are not using it (to the right) will make the hardware transparent - which means as if the drive was plugged directly into the Amiga. The switch should be in the off position when not using the Apex system.

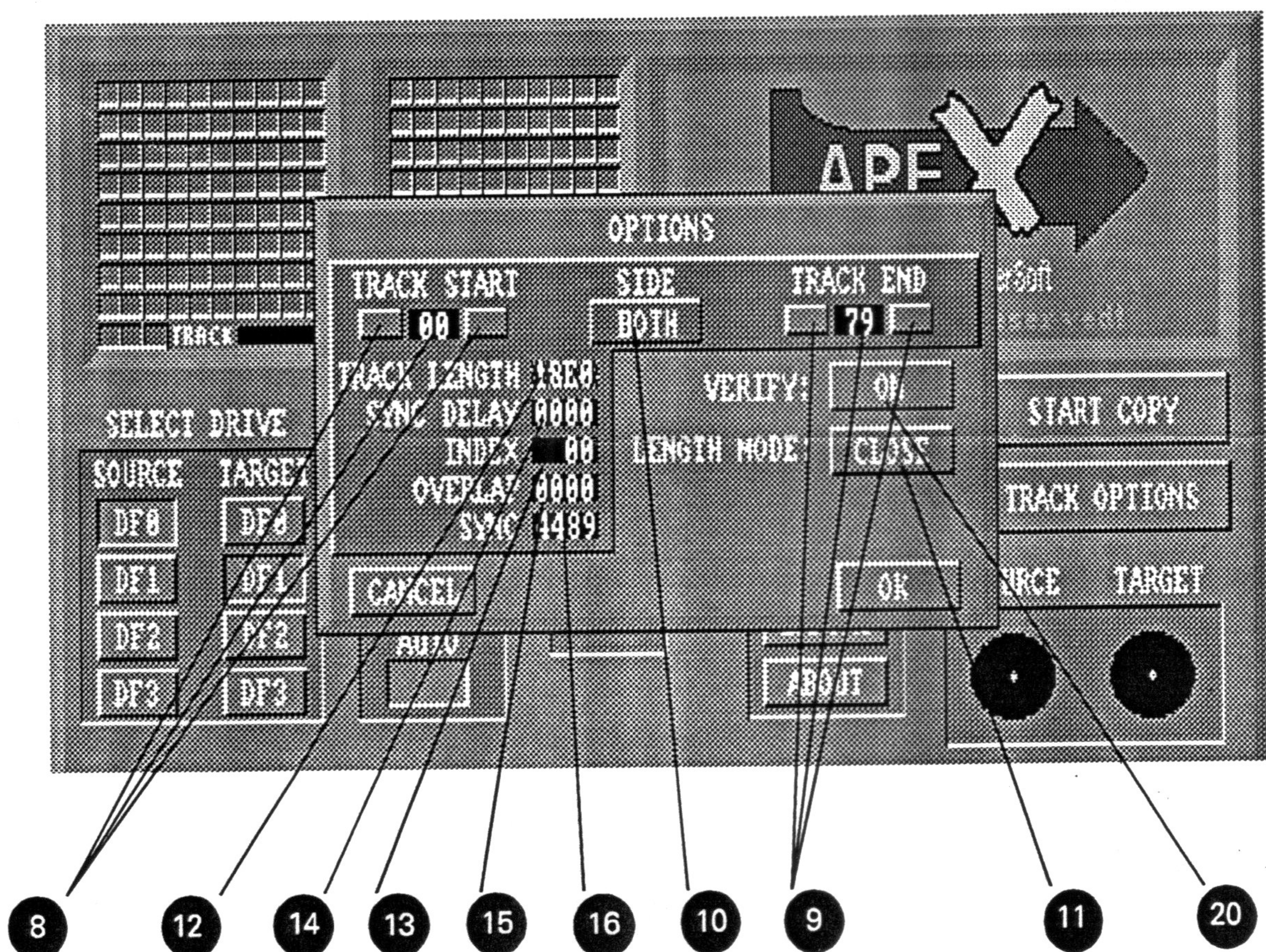
Now turn on your Amiga and put the Apex disk into DF0, the workbench screen will now load as normal and the Apex icon will appear, by clicking on the Apex icon will now load the Apex copying program and within a few seconds the Apex main screen will appear. Please read this manual carefully to get around the main screen and track options and soon you will be an expert in backing up ALL your software. For those of you who want to rush into copying a disk, the default parameters will be loaded (which should cope with most programs), by entering your ORIGINAL (source) into DF0 and a blank disk into DF1 (target) . Put the Apex switch on the hardware to on (LEFT) and click on START COPY , if the hardware is in the wrong position then you will be prompted with a reminder. Apex will not work properly without the Apex hardware. The Apex program disk is not protected !!! therefore your first copy should be to make a copy of the Apex program disk and place it in a safe place.

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MAIN SCREEN



TRACK OPTIONS



MAIN SCREEN

After loading the "APEX" program the main screen should now be displayed. The mouse will control most of the functions and only when you enter "TRACK OPTIONS" will you be required to input data from the keyboard in order to change parameters for heavily protected programs - but for most programs this should not be necessary.

SOURCE & TARGET (1)

The "SOURCE" Drive can be any Drive as the "TARGET" Drive, except when using the HARDWARE device when copying - in this mode you must copy from DF0 > DF1, as the hardware will do the necessary correcting automatically.

DEVICE (2)

There are three modes for copying - AUTO, HARDWARE and SOFTWARE. When the auto-mode is selected Apex will determine whether to use Hardware or Software routines to copy a track. If Hardware is selected then you must have DF0 as the SOURCE and the APEX Hardware only will be used to copy the disk. When Software is selected then only Software nibbling routines will be used to copy the disk.

MODE (3)

Two options are available, INDEX and NIBBLE. In the Nibble mode, the disk is analysed to detect whether there are sectors of any length and tries to "PASSE" through them and calculate how many sync marks there are. When a non-standard sync mark is detected other than the standard \$4489, then a search is made through the Apex data table. While this is happening the POWER LED will flash, if the software nibbling routines are unable to match a sync then Apex will do a calculated random data dump of the track.

GRID (4)

This function controls whether normal or individual track copying is carried out. When the Grid function is not selected you can move the pointer to any one of the cells in the two grids top left, and information on this track will be displayed. The left grid is the upper head, and the right grid is the lower head of a track. When the Grid function is selected, by moving the pointer over any cells you can save the current copying parameter in the Track option. By holding down both left and right mouse buttons the cell information will then be cleared and so appear black. To copy individual tracks, the Grid function MUST be selected first before you start to copy a disk. Copying individual tracks can also be done in TRACK OPTIONS. This will be covered at a later stage in the manual.

CLEAR (5)

This function will clear both grid boxes erasing ALL the data previously set.

ERRORS (6)

While copying, if an error is reported, that cell will change colour to PURPLE or RED. If this occurs you can go back and re-copy that particular track or others by going into TRACK OPTION, making sure the GRID function is selected before copying individual tracks. PLEASE NOTE:- Even though an error might of occurred, it could be that the Source disk has a "weak bit", unformatted data or "long bits". Try the copy first - it may work!

OPTIONS (7)

By selecting "TRACK OPTION", this will cause a window to appear in the centre of the screen. This window contains further parameters which can be altered by keyboard input. These options are there to combat further Protection Schemes Software Companies will use. Under normal copying circumstances there should be no need to enter into TRACK OPTION.

START TRACK (8)

The digits below Start Track indicate the first Track number when copying commences. By clicking on the two buttons, left and right of the digital display, you will be able to change the Start Track number. Clicking on the digital number itself will reset the display to ZERO. The default value is always set at 00.

END TRACK (9)

The same as Start Track, but this function determines the End Track. Default value is always set at 79.

HEAD (10)

This parameter is normally set to both, but can be changed to Head (0) or Head (1). Default value is set to both.

LENGTH MODE (11)

This function has three options: CLOSE, EXACT and FIXED. CLOSE will use the overlap value to determine how close of a track length cut-off is used. EXACT takes the track length of the source disk as the cut-off length. FIXED uses the value in the track length display. Default value is set to Close.

TRACK LENGTH (12)

The Length of a Track is used by the FIXED option in Length Mode.

INDEX MODE (13)

Some drives do not have an accurate or reliable index pulse. This value is the number of bytes from the start of a track's data to skip before writing. This can be adjusted for drives with weak or mis-aligned index detectors, but most new drives today shouldn't have this problem. Bad graphics when loading the copied disk are an example of this. Changing your source drive from DF0 to DF1 could rectify this.

SYNC DELAY (14)

When copying a disk in the **HARDWARE DEVICE MODE**, or a **LONG TRACK** is detected, and the mode set on **INDEX** - it will try to synchronise the two drives so that the index pulse of both drives happens at the same moment in time. When the drives sync together, this will give an identical copy of that track. The value can be changed from 0 to 4095. When altering this value, do so in small increments until the drives synchronise. Further on in this manual is a section on "Synchronised Copies"- **READ CAREFULLY**.

OVERLAP (15)

This parameter is used to determine how much of the Gap area should be included when copying a disk. Copying more of the gap will result in a more reliable copy. Too small an overlap (ie: negative values) could cause some loss in necessary and important data. If the overlap value is set too large (ie: positive values), this can cause printing over the first section after the gap. The default value is 0032.

SYNC (16)

This value can be changed to copy programmes that do not have a standard **SYNC MARK** (ie not \$4489). Syncs are determined automatically through the **NIBBLE** routine. If a non-standard Sync is recognised then this parameter can be changed.

VERIFY (20)

Two options verify **ON** or **OFF**. "**ON**" will cause copying speeds to slow down. To exit Track Options click on "**OK**".

START COPY (17)

By moving the mouse pointer over **START COPY** and pressing the left mouse you will start the copying process. Holding down the left mouse button during copying will abort the copy. If the **HARDWARE** switch is in the wrong position you will be prompted with a reminder.

SYNCRONISED COPIES (18)

At the bottom right of the main screen are two black disks which represent **SOURCE** and **TARGET**. When copying in the **HARDWARE/INDEX** mode, the physical position of the index pulse on the fastest drive is displayed. The disk drives motor is switched on and off to slow the drive down using **AST** (Advanced Syncro Technology) until both index pulses are synchronised. Adjusting the value in the **TRACK OPTIONS** window will cause the white dot, which shows the current position of the index, to move around to the 12 o'clock position. The most reliable copies are made when this dot is as close as possible to the 12 o'clock position. If the dot stays in one position and flashes then increase the sync delay. If the dot passes over the 12 o'clock position then reduce the sync delay. If the dot moves in a clockwise motion then force another drive to do the switching on and off of the motor. This is carried out by moving the mouse pointer onto one of the black disks and clicking on the left mouse button. If you have highlighted the source disk, then that will pulse the motor on that drive. If the target disk is highlighted, then whichever device, set to be the target device will pulse. If neither of the disks are highlighted, then **APEX** will determine which drive is rotating faster and pulse that particular drive when trying to synchronise. When copying an "Indexed Disk" in the **INDEX MODE**, a perfect copy can be made!! When copying a **NON-INDEXED** Disk clever analysing routines are implemented to determine exactly where the **TRACK GAP** area is located, and **APEX** will take over and automatically calculate.

QUIT APEX (19)

To **QUIT APEX** move the mouse pointer over "**QUIT APEX**" and press the left mouse button.

COPYING TIPS

Because of the complex protection routines that some Protected Disks use, Apex has all the necessary parameters to overcome them. There will never be a copier which will copy a disk with heavy protection without manually changing parameters. By learning **ALL** the functions of Apex, will enable you to back-up any disk, however well it is protected!! Patience is required, but in a short time you will discover the **POWER OF APEX** and how it will help you to master the art of copying your disks - so read this manual carefully and become an **EXPERT COPIER**:-

- 1) Use branded disks, ie. **TDK**, **SONY**, etc. Cheap, un-branded disks, without Pin Nos. can be **VERY** unreliable and cause unnecessary verification errors.
- 2) If a track does not copy correctly, then it may contain unformatted data in the gap area. Try the copy before changing parameters in the Track Option - this may work!!
- 3) Always copy a disk in the **Auto Device** first, before trying different copying modes.
- 4) Make sure that all tracks have copied successfully & copy again only tracks which have errors on them until successful. Remember Apex may give an apparent error when copying a protected disk, but the back-up may still be fine without problems. If a track does not copy using **AUTO NIBBLE**, try copying that track with **SOFTWARE NIBBLE**, **HARDWARE NIBBLE**, **SOFTWARE INDEX**, **HARDWARE INDEX** & **AUTO INDEX** until you achieve the perfect result.
- 5) Selected tracks on the disk grids are **YELLOW** for a **NIBBLE** & **WHITE** for an **INDEX** copy. Using the **GRID** option will require **HARDWARE** routines to do the copy. Hardware copies are more reliable but software based copies can be quicker. If there are any **ERRORS** a track with an error will be either **RED** or **LIGHT PURPLE**.
- 6) All the **ROUTINES** are here to copy **ANY DISK** but requires some parameter changing for those heavily protected disks, but the default parameters should deal with most programs.

**PLEASE NOTE: INTERSOFT CANNOT ENTER IN TO ANY COMMUNICATION ON HOW TO COPY
COPYRIGHTED SOFTWARE DUE TO LEGAL REASONS.**

APE X

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PRIME